

**ABSTRACT**

The present invention relates to a signal processor and methods of using a signal processor. In one aspect, the present invention relates to a signal processor that includes a pulse width modulator having a clock rate, and also includes a digital filter configured to receive an output of the pulse width modulator, wherein the digital filter samples the output at the clock rate to suppress the distortion. In another aspect, the present invention relates to a method including modulating a first pulse code modulated signal having a first resolution into a second pulse code modulated signal having a second resolution that is smaller than the first resolution. This aspect further includes modulating the second pulse code modulated signal into a third signal that includes a plurality of pulses in time having a clock rate, and filtering in a digital domain the plurality of pulses in time to suppress a distortion in the third signal.